

ADDENDUM TO "THE RESURRECTION OF *ALCANTAREA* AND *WERAUHIA*,
A NEW GENUS" (BROMELIACEAE: TILLANDSIOIDEAE)

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ABSTRACT

An addendum to a recently published paper, "The resurrection of *Alcantarea* and *Werauhia*, a new genus" (Grant 1995) is presented. Taxonomic amendments include: accepting new synonymy proposed by Utley (1994) including *Vriesea breedloveana* L.B. Smith = *Werauhia werckleana* (Mez) J.R. Grant, *V. chiapensis* Matuda = *W. pectinata* (L.B. Smith) J.R. Grant, *V. cornus-cervi* Rohweder = *W. werckleana* (Mez) J.R. Grant, *V. ovandensis* Matuda = *W. pycnantha* (L.B. Smith) J.R. Grant, *comb. nov.*, and *V. patzeltii* Rauh subsp. *panamaensis* Rauh = *W. greenbergii* (Utley) J.R. Grant, and the transfer of *Vriesea burgeri* L.B. Smith and *V. macrantha* Mez & Wercklé to *Werauhia* as *W. burgeri* (L.B. Smith) J.R. Grant, *comb. nov.*, and *W. macrantha* (Mez & Wercklé) J.R. Grant, *comb. nov.* While a translation of the *Alcantarea* abstract into Spanish was published, its translation into Portuguese and the translations of the *Werauhia* text into both Portuguese and Spanish were omitted by the publisher. They are printed here in their entirety. Several errors in the text are also corrected.

KEY WORDS: Bromeliaceae, Tillandsioideae, *Alcantarea*, *Werauhia*, *Vriesea*

INTRODUCTION

This addendum accounts for taxonomic changes and errors in the text of the paper "The resurrection of *Alcantarea* and *Werauhia*, a new genus" (Grant 1995). While an updated manuscript containing these revisions was sent to the publisher of that paper, the computer diskette containing the file became corrupted during international mail transport, and the corrections were not made. Therefore, the original manuscript was printed without the amendments. This paper summarizes the changes that should have been made.

ALCANTAREA

Sumário. Este é o primeiro de uma série de artigos que irão revisar os limites genéricos na Tillandsioideae. O objectivo é delimitar os limites de género individuais a fim de desenvolver um sistema natural e filgênico de classificação de nível genérico

dentro da sub-família. Aqui, *Alcantarea* (Morren ex Mez) Harms é reclassificada de sua prévia posição sub-genérica a uma categoria genérica. Ela se distingue de *Vriesea* por suas espectaculares pétalas espirais, longilíneas, fusiformes, distintamente flácidas, e por sementes com comas basais e ápices. A história, nomenclatura, taxonomia e relacionamento genérico do gênero são discutidas. Dez espécies formam o gênero, oito das quais são novos acréscimos: *Alcantarea brasiliiana* (L.B. Smith) J.R. Grant, *comb. nov.*, *A. duarteana* (L.B. Smith) J.R. Grant, *comb. nov.*, *A. extensa* (L.B. Smith) J.R. Grant, *comb. nov.*, *A. farneyi* (Martínelli & Costa) J.R. Grant, *comb. nov.*, *A. geniculata* (Wawra) J.R. Grant, *comb. nov.*, *A. imperialis* (Carrère) Harms, *A. nahoumii* (Leme) J.R. Grant, *comb. nov.*, *A. odorata* (Leme) J.R. Grant, *comb. nov.*, *A. regina* (Vellozo) Harms, e *A. vinicolor* (Pereira & Reitz) J.R. Grant, *comb. nov.* *Alcantarea* está limitada aos estados brasileiros de Rio de Janeiro, Espírito Santo, Minas Gerais e Bahia, a área de núcleo de diversidade de *Vriesea*.

WERAUHIA

Sumário. Um nove gênero de Bromeliaceae representado por sessenta e seis espécies e uma espécie previamente atribuída a *Vriesea* Lindley subgênero *Vriesea* divisão *Xiphion* (E. Morren) E. Morren ex Mez. Em homenagem ao Professor Dr. Werner Rauh, é denominada *Werauhia* J.R. Grant gen. nov. O mesmo é caracterizado por plantas de floração noturna, e em geral por uma falta de coloração brilhante, sobretudo brácteas e flores, principalmente carnosas, de simetria bilateral, frequentemente com corolas zigomórficas, androceu e gineceu, as duas últimas consideravelmente dentro da corola, apêndices de pétalas dactilóides com um a cinco dedos de tamanhos variados, estigmas com morfologia de tipo cúpula, faltando papellae e com cúpulas escuras resistentes. Dentro de *Werauhia*, duas divisões são descritas: *Werauhia* para trinta espécies representando elementos "aliados thecophylloid" de Utley, e *Juleya* J.R. Grant sect. nov. em homenagem ao Dr. John F. Utley por trinta e seis espécies e uma subespécie representando "thecophylloid vrieseas". O gênero se estende do sul do México, através da América Central às Índias Ocidentais, Perú e nordeste do Brasil. Seu núcleo de diversidade é a cadeia de montanhas que incluem a Cordilheira de Guanacaste, Cordilheira de Tilaran, Cordilheira Central e Cordilheira de Talamanca em Costa Rica e oeste do Panamá.

Resumen. Un nuevo género de Bromeliaceae es descrito por sesenta y seis especies e una subespecie atribuidas previamente a *Vriesea* Lindley subgênero *Vriesea* sección *Xiphion* (E. Morren) E. Morren ex Mez. En honor al Prof. Dr. Werner Rauh se ha llamado *Werauhia* J.R. Grant, gen. nov. El mismo se caracteriza por plantas con florecimiento generalmente nocturno, una ausencia general de coloración brillante, brácteas y flores principalmente carnosas y frecuentemente unilaterales, simetría bilateral, corolas, androecios y ginecios frecuentemente cigomórficos, donde los dos últimos se encuentran incluidos dentro de la corola, apêndices dactilares en los pétalos con uno a cinco dedos de longitud variada, estigmas con morfología tipo cúpula, con ausencia de papilas, y cápsulas resistentes y de color oscuro. Dentro de *Werauhia*, se describen dos secciones: *Werauhia* para treinta especies representando elementos de los "thecophylloid allies" de Utley, y *Juleya* J.R. Grant sect. nov. en honor del Dr. John F. Utley, para treinta y seis especies e una subespecie representando los "thecophylloid vrieseas" de Utley. El género se extiende desde el sur de México, a través de América Central y las Antillas Occidentales, al Perú y el nordeste brasileño. Su centro de diversidad y de mayor concentración de especies es en la cadena de

montañas que incluyen la Cordillera de Guanacaste, la Cordillera de Tilarán, la Cordillera Central y la Cordillera de Talamanca en Costa Rica y en el oeste de Panamá.

Based on the work of Utey (1994), the following changes are noted: *Vriesea breedloveana* L.B. Smith = *Werauhia werckleana* (Mez) J.R. Grant, *V. chiapensis* Matuda = *W. pectinata* (L.B. Smith) J.R. Grant, *V. cornus-cervi* Rohweder = *W. werckleana* (Mez) J.R. Grant, *V. ovandensis* Matuda = *W. pycnantha* (L.B. Smith) J.R. Grant, and *V. patzeltii* Rauh subsp. *panamaensis* Rauh = *W. greenbergii* (Utey) J.R. Grant. Additionally, some of the taxa reduced to synonymy in Grant (1995) were recognized as distinct in Utey (1994) including: *Vriesea burgeri* L.B. Smith, *V. dodsonii* L.B. Smith, *V. macrantha* Mez & Wercklé, *V. macrochlamys* Mez & Wercklé, *V. nutans* L.B. Smith, and *V. rugosa* Mez & Wercklé. After reexamination of type material, I will recognize *V. burgeri* and *V. macrantha* as distinct taxa and here make the appropriate changes. It is best to keep the remaining taxa in synonymy until such time as they can be confirmed as distinct. After these adjustments, *Werauhia* is recognized to contain 64 species.

Werauhia burgeri (L.B. Smith) J.R. Grant, *comb. nov.* BASIONYM: *Vriesea burgeri* L.B. Smith, *Phytologia* 28(4):326. 1974. TYPE: COSTA RICA. Puntarenas: between Río Coton and Río Negro (about 15 km from Sabalito) near Las Alturas lumber camp, *Burger & Matta U. 4583* (HOLOTYPE: US; Isotypes: CR, F not seen).

Werauhia greenbergii (Utey) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:42. 1995. BASIONYM: *Vriesea greenbergii* Utey, *Tulane Stud. Zool. Bot.* 30. 1983. TYPE: COSTA RICA. Alajuela: north of San Ramón, *Utey & Utey 3741* (HOLOTYPE: DUKE not seen; Isotypes: CR, DUKE not seen, F not seen, US).

= *Vriesea patzeltii* Rauh var. *panamaensis* Rauh in *Abh. Akad. Wiss. Lit. Mainz, Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 60:86. 1987. *Werauhia patzeltii* (Rauh) J.R. Grant subsp. *panamaensis* (Rauh) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:47. 1995. Placed in synonymy under *Vriesea greenbergii* by Utey (1994:127.). TYPE: PANAMA. Colón: Smithsonian Tropical Research Institute, *Dressler s.n.* (HOLOTYPE: HEID not seen).

Werauhia macrantha (Mez & Wercklé) J.R. Grant, *comb. nov.* BASIONYM: *Vriesea macrantha* Mez & Wercklé in *Mez, Bull. Herb. Boissier ser. 2, 4(9):867*. 1904. TYPE: COSTA RICA. Without locality, *Wercklé s.n.* (HOLOTYPE: B not seen [photo US]).

Werauhia pectinata (L.B. Smith) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:33. 1995. BASIONYM: *Vriesea pectinata* L.B. Smith, *Lilloa* 6:387. 1941. TYPE: GUATEMALA. Alta Verapaz: Cobán, *Standley 69055* (HOLOTYPE: F not seen).
= *Vriesea chiapensis* Matuda, *Anales Inst. Biol. Univ. Nac. México* 23:130. 1952. *Werauhia chiapensis* (Matuda) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:31. 1995. Placed in synonymy under *Vriesea pectinata* by Utey (1994:131.). TYPE: MEXICO. Chiapas: Monte Bello, near Comitan, *Ramírez 178* (HOLOTYPE: MEXU not seen).

- Werauhia pycnantha* (L.B. Smith) J.R. Grant, *comb. nov.* BASIONYM: *Vriesea pycnantha* L.B. Smith, *Contr. Gray Herb.* 154:31. 1945. TYPE: GUATEMALA. Quezaltenango: along Río Samalá, Santa María de Jesús to Calahuaché, *Steyermark 33903* (HOLOTYPE: F, not seen [photo US]).
 = *Vriesea ovandensis* Matuda, *Cact. Suc. Mex.* 2(4):78. 1957. *Werauhia ovandensis* (Matuda) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:33. 1995. Placed in synonymy under *Vriesea pycnantha* by Utley (1994:131.). TYPE: MEXICO. Chiapas: Monte Ovando, northeast of Escuintla, *Matuda 32634* (HOLOTYPE: MEXU not seen; Isotype: US).
- Werauhia werckleana* (Mez) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:38. 1995. BASIONYM: *Vriesea werckleana* Mez, *Bull. Herb. Boissier ser. 2, 3(2):136.* 1903, not *Thecophyllum werckleanum* Mez (1903:139.) [= *Werauhia nephrolepis*]. TYPE: COSTA RICA. Cartago: Vicinity of Cartago, *Wercklé 16210* (HOLOTYPE: B not seen [photo US]; Isotype: US).
 = *Vriesea breedloveana* L.B. Smith, *Phytologia* 28(4):326. 1974. *Werauhia breedloveana* (L.B. Smith) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math. - Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:31. 1995. Placed in synonymy under *Vriesea werckleana* by Utley (1994:134.). TYPE: MEXICO. Chiapas: Mun. Zinacantan, along Hwy. 190 in the Zinacantan paraje of Navenchauk, *Breedlove 15438* (HOLOTYPE: US).
 = *Vriesea cornus-cervi* Rohweder, *Abh. Auslandsk., Band 61, Reihe C, Naturwiss.* 18:82. 1956. *Werauhia cornus-cervi* (Rohweder) J.R. Grant, *Abh. Akad. Wiss. Lit. Mainz. Math.-Naturwiss. Klasse, Trop. Subtrop. Pflanzenwelt* 91:31. 1995. Placed in synonymy under *Vriesea werckleana* by Utley (1994:134.). TYPE: EL SALVADOR. Sonsoñate: Laguna de las Ranas, *Rohweder 436* (HOLOTYPE: HBG not seen).

ERRATA

- p. 15, line 26, replace: "Wawra, H.R. & H.R. von Fernsee" with "Wawra, H., Ritter von Fernsee".
- p. 19, lines 16-17, replace: "*Vriesea* sect. *Xiphion* (E. Morren) J.R. Grant, *comb. ined.*, (Grant in prep.)" with "*Vriesea* sect. *Xiphion* (E. Morren) E. Morren, *Belgique Hort.* 28:257. 1878." Since *Vriesea* sect. *Xiphion* already exists, the implied need for a change in rank is incorrect.
- p. 27, line 16, replace: "apically" with "basally".
- p. 27, line 31, replace: "basally" with "apically". The words "basally" and "apically" were inadvertently reversed in the key. Their use throughout the remainder of the text is correct.

The "Index to Names Cited" at the end of the *Werauhia* text refers only to the taxa listed in the *Werauhia* portion of the paper. It does not include the taxa mentioned in the *Alcantarea* text.

MAP: The title of the map was omitted. It should read: "Approximate Distributions of *Alcantarea*, *Vriesea*, and *Werauhia*".

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LITERATURE CITED

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- Uteley, J.F. 1994. "Bromeliaceae," pp. 89-159. In: Davidse, G., M. Sousa S., & A.O. Chater (eds.), *Flora Mesoamericana. Volumen 6, Alismataceae a Cyperaceae*. México City: Universidad Nacional Autónoma de México.